

This listing of claims will replace all prior versions, and listing of claims in the application:

Listing of claims:

Claim 1 (currently amended) Bioreactor for culturing living cells in a liquid culture medium comprising:

- [-] at least one stationary tank enclosing the cells and liquid culture medium, and
- [-] at least one means for introducing single large gas bubbles at the a bottom of the vessel,

~~wherein the single large bubble having a width represents from 50 to 99% of the tank width, preferably from 60 to 99%, more preferably 98.5%.~~

Claim 2 (original) Bioreactor according to claim 1 wherein the single large bubble has a volume of at least 65 cm³.

Claim 3 (currently amended) Bioreactor according to ~~claims claim 1 and 2~~, wherein the bioreactor ~~also~~ comprises at least a means for programming volume and frequency of large bubbles.

Claim 4 (currently amended) Bioreactor according to ~~claims claim 1 to 3~~, wherein the tank is a ~~flexible or non-flexible~~ plastic bag.

Claim 5 (currently amended) Bioreactor according to ~~claims claim 1 to 4~~, wherein the stationary tank is surrounded by a rigid outer container.

Claim 6 (currently amended) Bioreactor according to ~~claims claim 1 to 5~~, wherein the upper part of the tank is flared.

Claim 7 (currently amended) Bioreactor according to ~~claims claim 1 to 6~~, wherein the tank has a cross-sectional shape selected from the group consisting of is cylindrical and or has an oval cross section.

Claim 8 (currently amended) A method for culturing Use of bioreactor according to claims 1 to 7, wherein the cells selected from the group consisting of are plant, animal cells or and micro-organisms comprising the steps of using at least one stationary tank enclosing the cells and liquid culture medium, and introducing single large gas bubbles having a width from 50 to 99% of a width of the tank at a bottom of the vessel.

Claim 9 (currently amended) A method for culturing Use of bioreactor according to claims 1 to 8, wherein the cells are and producing biomass cells, embryogenic plant cells, metabolites, secondary plant metabolites, and/or recombinant molecules comprising the steps of using at least one stationary tank enclosing the cells and liquid culture medium, and introducing single large gas bubbles having a width from 50 to 99% of a width of the tank at a bottom of the vessel.

Claim 10 (new) The bioreactor of claim 1 wherein the width of the single large bubble is 60% to 99% of the tank width.

Claim 11 (new) The bioreactor of claim 1 wherein the width of the single large bubble is at least 98.5% of the tank width.

Claim 12 (new) The bioreactor of claim 4 wherein the plastic bag is flexible.

Claim 13 (new) The bioreactor of claim 4 wherein the plastic bag is non-flexible.

Claim 14 (new) Bioreactor for culturing living cells in a liquid culture medium comprising:

at least one stationary tank enclosing the cells and liquid culture medium, and
an inlet allowing a single large gas bubble to be received at a bottom of the vessel,
the single large bubble having a width that is 50 to 99% of the tank width.